

CYMBELINE —A High Velocity Impact Experiment

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Objective: We propose to collide two thoroughly instrumented satellites at a relative velocity of 20 km/sec and use the transient high pressures generated in the collision to measure thermodynamic properties (shock Hugoniot equation of state) for dozens of materials at pressures of 7-35 Megabars (million atmospheres). These pressures far exceed anything which has been achieved on Earth in a comparably precise experiment. The experiment will provide data of fundamental scientific interest.